

anists, for the reason that once established and pretty generally recognized, it would avoid the great mass of synonymy, which is being heaped like an incubus upon the science. I must express surprise that Dr. Britton has not considered it his duty to publish the last written words of Dr. Gray which were addressed to him upon this subject and which expressed his positive opinions upon this point.

There is nothing whatever of an ethical character inherent in a name through any priority of publication or position which should render it morally obligatory upon anyone to accept one name rather than another; otherwise it would be applicable or true as well in the case of ordinal names, morphological names, teratological, and every other form of name, to which now no one feels himself bound to apply the law of priority. The application of this law as at present practiced by many botanists, which would make it the one great law of botanical nomenclature, before which every other must yield regardless even of common sense, is a mere form of fetichism exemplified in science. Many instances of the application of this law are not science but are rather superstition.

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The North American Lejeuneæ.

F. STEPHANI.

In his Descriptive Catalogue of N. A. Hepaticæ Dr. Underwood has collected the names of all Lejeuneæ reported to have been found in the United States and Canada. Amongst these are four species, which Taylor published as having come from Cincinnati, while they had been collected on the shores of the Amazon, near the city of Pará, which Taylor believed to be a place in the vicinity of Cincinnati. These four species are *Lej. cyclostipa*, *polyphylla*, *testudinea* and *longiflora*, all of which having been described before, now bear other names. His *Lejeunea calyculata* too is merely the common form of *Lej. clypeata* Schweinitz. There remain only the following species, to which I have added four newly detected plants: *Lej. trifaria* Nees, *Lej. Wrightii* G., *Lej. Cardoti* Steph., *Lej. Underwoodii* Steph. The North American Lejeuneæ have to be arranged as follows:

a. *Holostipæ*.

1. *Neuro-Lejeunea catenulata* Nees: a most beautiful little plant and well described, page 323, in Synopsis Hepaticarum.
2. *Archi-Lejeunea clypeata* Schweinitz.
Syn.: *Lej. calyculata* Taylor.
3. *Archi-Lejeunea xanthocarpa* L. & L.: quite different from *Lej. catenulata* to which it has not the least resemblance.
4. *Mastigo-Lejeunea auriculata* Hook. & Wils.
Syn.: *Phragmicoma versicolor* L. & L.
5. *Lejeunea Mohrii* Austin, which I have not seen.

b. *Schizostipæ*.

6. *Euosmo-Lejeunea trifaria* Nees: newly detected in Florida, in large tufts on bark of trees.
7. *Eu-Lejeunea Austini* Lindb.
8. *Eu-Lejeunea Caroliniana* Aust.
9. *Eu-Lejeunea serpyllifolia* Libert.
10. *Eu-Lejeunea Underwoodii* Steph. n. sp.
11. *Micro-Lejeunea Cardoti* Steph. n. sp.
12. *Micro-Lejeunea lucens* Taylor: not at all identical with *Lej. cucullata* Nees, which looks more like *Lej. minutissima*.
13. *Micro-Lejeunea ulicina* Taylor: Lindberg found this in a tuft of *Lej. serpyllifolia* from Charleston; see his *Hepaticæ in Hibernia lectæ*, page 482. Taylor gave this name to a minute plant with stipules, while *Lej. minutissima* Smith has none; the synonymy has been much confused and even Lindberg has fallen into errors, which Spruce has already corrected. I wish to repeat, therefore, that Lindberg's *Lej. inconspicua* is the true *Lej. minutissima* while his *Lej. minutissima* is *Lej. ulicina*.
14. *Colo-Lejeunea calcarea* Libert (1820): a name for which Lindberg has substituted Taylor's name *Lej. echinata*, which was not given before 1844. Hooker published this plant as *Fungermania hamatifolia*, var. *echinata*; Mme. Libert, recognizing it as a distinct species was not obliged to use the name *echinata*. Lindberg in doing so, wronged the old author and multiplied the names without any necessity. Spruce in his admirable work on the *Hepaticæ Amazonicæ et Andinæ*, page 292, uses the name *Lej. calcarea* Libert.
15. *Colo-Lejeunea Fooriana* Aust. I have not seen.
16. *Colo-Lejeunea minutissima* (Smith.)
Syn.: *Lejeunea inconspicua* De Notaris.

17. *Colo-Lejeunea parvula* Aust. I have not seen. See Lindberg l. c. page 481.

18. *Colo-Lejeunea Wrightii* Gottsche: this plant, growing on bark of living trees, has been sent me from Louisiana, leg. Langlois. It was known before from Cuba, and together with *Lej. trifaria*, *L. auriculata* and *L. xanthocarpa*, is largely distributed throughout tropical America. The last species is found also throughout Africa, where it has been found on the slopes of the Kilimandscharo, in the island of Fernando Po opposite Cameroon and also at the Cape of Good Hope. Truly an extensive distribution!

There remain two species, which I have never seen and the suborder of which is not to be recognized from the descriptions; these are

19. *Lejeunea laete-fusca* Austin.

20. *Lejeunea Ravenelii* Austin.

I conclude by giving the descriptions of the before named new species viz.:

Micro-Lejeunea Cardoti n. sp.—Dioica, exigua, dense caespitosa, viridis. *Caulis* multiramosus, ramis recte patentibus, filiformibus. *Folia* normaliter late ovata, oblique patentia, dorso longe soluta, ventre grandilobulata, *lobulus* inflatus apice excisus, hamatim longe dentatus. *Folii cellulae* 1. *Incrassatis* angulosa nulla. *Ocella* 3 ad basin folii 0.017×0.025 mm. Plurima folia lobulos reductos, plicaeformes, ostendunt. *Amphigastria* ovata, usque ad basin fere bifida, laciniis lanceolatis. Flores feminei pseudolaterales; *folia floralia* subaequaliter biloba, conduplicato-concava, lobis brevibus obtusis. *Amphigastrium florale* foliis suis aequilongum, ovatum, ad $\frac{1}{3}$ bifidum, lobis obtusis. *Perianthium* pyriforme, *inflato-quinquangulare*, rostro subnullo.

Proxima *Lejeuneae ulicinae*, quae differt foliis fere rotundis, dorso longius accretis, foliorum lobulo multo majore, dimidium folii tegente, cellulis distincte incrassatis. *Lejeunea bullata* Taylor differt foliis fere erectis, ellipticis. *Lejeunea lucens* T. multo major est et toto coelo diversa.

HAB.: Louisiana (*Langlois*). Mexico (*Pringle*).

Eu-Lejeunea Underwoodii n. sp.—Dioica, flavicans, dense depresso caespitosa, minor. *Caulis* vage ramosus, flaccidus. *Folia* subplana, late ovata, oblique a caule patentia, antice caulem tegentia haud superantia, apice *angulato-repanda*. *Cellulae* foliorum margine 0.012 mm., medianae 0.017 mm.,

basales 0.017×0.025 mm., *trigonis magnis acutis*. *Lobulus* diametro caulis duplo longior, decurrens, carina arcuata sinu lunato in folium excurrente, apice exciso-truncatus, angulo brevidentato, ceterum valde convexus, margine supero involuto. *Amphigastria* caulina ovata, caule plus duplo latiora, ad medium fere bifida, sinu angusto laciniis acutis. *Flores feminei* in caule ramisque pseudolaterales, raro in angulo furcarum. *Folia floralia* caulinis minora, arcuatim divergentia, e basi angusta falcato-oblonga, lobulo lanceolato profunde soluto, acuto. *Amphigastrium florale* foliis suis aequimagnum, oblongum, ad $\frac{1}{3}$ incisum, rima angusta, laciniis muticis.

Perianthia et *androecia* ignota.

HAB.: Florida (*Underwood*). *Lejeunea Caroliniana* monica est. *Lejeunea Austini* cellulis multo minoribus gaudet. A remarkable feature in this plant is the *large incrassations* at the angles of the cells, which form very distinct triangles with acuminate points.

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Flowers and insects. VIII.

CHARLES ROBERTSON.

ISOPYRUM BITERNATUM Torr. & Gray.—The plants grow in damp, rich woods, in small patches, notably about bases of trees. The stem rises a few inches and bears a few-flowered cyme, in which only one or two flowers are open at the same time.

The flowers are white, sometimes with a purplish tinge; they are strongly heliotropic and measure about 14 or 15 mm. across, the five oval petals expanding horizontally. The stamens are numerous, the outer elongating and discharging pollen first. Nectar is probably secreted by the bases of the filaments; insects probe among them with their proboscides, evidently for nectar. The four styles at first overtop the inner stamens, and have receptive stigmas before any of the anthers discharge, so that the flower is female in the first stage.

When the cyme contains two open flowers, one of them is commonly in the male, the other in the female stage. In case of insect visits, the latter is more apt to receive pollen from another stem, but may receive it from the older flower